UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,198	03/30/2004	Hanching G. Wang	PD-200109A	5150

7590 02/26/2007

Victor G. Cooper
Gates & Copper LLP
Howard Hughes Center
6701 Center Drive West, Suite 1050
Los Angeles, CA 90045

EXAMINER	
WENDELL, ANDREW	
ART UNIT	PAPER NUMBER
2618	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	02/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/813,198	WANG ET AL.	
	Examiner	Art Unit	
	Andrew Wendell	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *27-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *27-42* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Double Patenting

1. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

2. Claims 27-42 are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 27-42 of copending Application No. 2004/0113838. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Regarding claim 27, Application No. 2004/0113838 teaches a method for reducing the asymmetry error in a beacon, wherein the beacon comprises of multiple beams, and each beam is formed from a multiplicity of feed channels, comprising the step of: (a) computing asymmetry angles; and (b) using the asymmetry angles to correct the beacon sensor measurements (Claim 27).

Regarding claim 28, Application No. 2004/0113838 teaches wherein the step of using the asymmetry angles to correct the beacon sensor measurements includes the step of using the asymmetry angles as beacon bias angles (Claim 28).

Regarding claim 29, Application No. 2004/0113838 teaches wherein the step of using the asymmetry angles to correct the beacon sensor measurements includes the step of using the asymmetry angles as time-varying beacon bias angles (Claim 29).

Regarding claim 30, Application No. 2004/0113838 teaches wherein steps (a)-(b) are performed in a terrestrially-based processor (Claim 30).

Regarding claim 31, Application No. 2004/0113838 teaches wherein steps (a)-(b) are performed by a satellite processor (Claim 31).

Regarding claim 32, Application No. 2004/0113838 teaches wherein the step of computing the asymmetry angles comprises the step of: computing a difference between known azimuth/elevation angles, (az el), and their corresponding predicted beam-formed azimuth/elevation angles, (az.sub.c el.sub.c):(az-az.sub.c el--el.sub.c) (Claim 32).

Regarding claim 33, Application No. 2004/0113838 teaches wherein the corresponding beam-formed azimuth/elevation angles are computed according to 15 az c = K az E 2 - W 2 E 2 + W 2 , and el c = K el N 2 - S 2 N 2 + S 2 where K.sub.az and K.sub.el are optimal beacon slopes, and E, W, N, and S are East, West, North, and South beam magnitudes of the beacon beams (Claim 33).

Regarding claim 34, Application No. 2004/0113838 teaches wherein the E, W, N, and S beam magnitudes of the beacon are computed according to: E(az,el)=W.sub.E.sup.TX; W(az, el)=W.sub.W.sup.TX; N(az, el)=W.sub.N.sup.TX; S(az, el)=W.sub.S.sup.TX; and wherein the W.sub.E, W.sub.W, W.sub.N, and

W.sub.S are the channel weights of East, West, North, and South beacon beams, and X is a response of a plurality of feed chains at look angle (az el) (Claim 34).

Regarding claim 35, Application No. 2004/0113838 teaches an apparatus for reducing the asymmetry error in a beacon, wherein the beacon comprises of multiple beams, and each beam is formed from a multiplicity of feed channels, comprising the step of: means for computing asymmetry angles; and means for using the asymmetry angles to correct the beacon sensor measurements (Claim 35).

Regarding claim 36, Application No. 2004/0113838 teaches wherein the means for using the asymmetry angles to correct the beacon sensor measurements includes means for using the asymmetry angles as beacon bias angles (Claim 36).

Regarding claim 37, Application No. 2004/0113838 teaches wherein the means for using the asymmetry angles to correct the beacon sensor measurements includes means for using the asymmetry angles as time-varying beacon bias angles (Claim 37).

Regarding claim 38, Application No. 2004/0113838 teaches wherein the means for computing asymmetry angles and the means for using the asymmetry angles to correct the beacon sensor measurements comprise a terrestrially-based processor (Claim 38).

Regarding claim 39, Application No. 2004/0113838 teaches wherein the means for computing asymmetry angles and the means for using the asymmetry angles to correct the beacon sensor measurements comprise a satellite-based processor (Claim 39).

Regarding claim 40, Application No. 2004/0113838 teaches wherein the means for computing the asymmetry angles comprises: means for computing a difference between known azimuth/elevation angles, (az el), and their corresponding predicted beam-formed azimuth/elevation angles, (az.sub.c el.sub.c):(az-az.sub.c el-el.sub.c) (Claim 40).

Regarding claim 41, Application No. 2004/0113838 teaches wherein the corresponding beam-formed azimuth/elevation angles are computed according to 16 az c = K az E 2 - W 2 E 2 + W 2 , and el c = K el N 2 - S 2 N 2 + S 2 where K.sub.az and K.sub.el are optimal beacon slopes, and E, W, N, and S are East, West, North, and South beam magnitudes of the beacon beams (Claim 41).

Regarding claim 42, Application No. 2004/0113838 teaches wherein the E, W, N, and S beam magnitudes of the beacon are computed according to: E(az, el)=W.sub.E.sup.TX; W(az, el)=W.sub.N.sup.TX; N(az, el)=W.sub.N.sup.TX; S(az,el)=W.sub.S.sup.TX; and wherein the W.sub.E, W.sub.W, W.sub.N, and W.sub.S are the channel weights of East, West, North, and South beacon beams, and X is a response of a plurality of feed chains at look angle (az el) (Claim 42).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 27-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ghazvinian et al. (US Pat# 5,936,570) in view of Patouraux (US Pat# 6,804,986).

Regarding claim 27, method claim 27 is rejected for the same reason as apparatus claim 35 since the recited elements would perform the claimed steps.

Regarding claim 28, method claim 28 is rejected for the same reason as apparatus claim 36 since the recited elements would perform the claimed steps.

Regarding claim 29, method claim 29 is rejected for the same reason as apparatus claim 37 since the recited elements would perform the claimed steps.

Regarding claim 30, method claim 30 is rejected for the same reason as apparatus claim 38 since the recited elements would perform the claimed steps.

Regarding claim 31, method claim 31 is rejected for the same reason as apparatus claim 39 since the recited elements would perform the claimed steps.

Regarding claim 32, method claim 32 is rejected for the same reason as apparatus claim 40 since the recited elements would perform the claimed steps.

Regarding claim 33, method claim 33 is rejected for the same reason as apparatus claim 41 since the recited elements would perform the claimed steps.

Regarding claim 34, method claim 34 is rejected for the same reason as apparatus claim 42 since the recited elements would perform the claimed steps.

Regarding claim 35, Ghazvinian teaches means for computing asymmetry angles; and means for using the asymmetry angles to correct the beacon sensor measurements (Col. 2 lines 8-62). Ghazvinian fails to clearly teach a beacon sensor.

Patouraux teaches means for computing asymmetry angles; and means for using the asymmetry angles to correct the beacon sensor measurements (Col. 4 lines 40-61).

Therefore, it would have been obvious at the time of the invention to one of ordinary skill in the art at the time the invention was made to incorporate a beacon sensor as taught by Patouraux into Ghazvinian's beacon signal in order to provide fast measurements (Col. 1 lines 47-59)

Regarding claim 36, Patouraux teaches wherein the means for using the asymmetry angles to correct the beacon sensor measurements includes means for using the asymmetry angles as beacon bias angles (Col. 4 lines 40-61).

Regarding claim 37, Ghazvinian teaches wherein the means for using the asymmetry angles to correct the beacon sensor measurements includes means for using the asymmetry angles as time-varying beacon bias angles (Col. 2 lines 8-62).

Regarding claim 38, Ghazvinian teaches wherein the means for computing asymmetry angles and the means for using the asymmetry angles to correct the beacon sensor measurements comprise a terrestrially-based processor (Col. 2 lines 8-62).

Regarding claim 39, Patouraux teaches wherein the means for computing asymmetry angles and the means for using the asymmetry angles to correct the beacon sensor measurements comprise a satellite-based processor (Col. 4 lines 40-61).

Regarding claim 40, Ghazvinian teaches wherein the means for computing the asymmetry angles comprises: means for computing a difference between known azimuth/elevation angles, and their corresponding predicted beam-formed azimuth/elevation angles (Col. 2 lines 8-62).

Regarding claim 41, Patouraux teaches wherein the corresponding beam-formed azimuth/elevation angles are computed according to 16 az c = K az E 2 - W 2 E 2 + W 2 , and el c = K el N 2 - S 2 N 2 + S 2 where K.sub.az and K.sub.el are optimal beacon slopes, and E, W, N, and S are East, West, North, and South beam magnitudes of the beacon beams (Col. 4 lines 40-61).

Regarding claim 42, Patouraux teaches wherein the E, W, N, and S beam magnitudes of the beacon are computed according to: E(az, el)=W.sub.E.sup.TX; W(az, el)=W.sub.N.sup.TX; N(az, el)=W.sub.N.sup.TX; S(az,el)=W.sub.S.sup.TX; and wherein the W.sub.E, W.sub.W, W.sub.N, and W.sub.S are the channel weights of East, West, North, and South beacon beams, and X is a response of a plurality of feed chains at look angle (az el) (Col. 4 lines 8-62).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew Wendell whose telephone number is 571-272-0557. The examiner can normally be reached on 7:30-5 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung can be reached on 571-272-7882. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Andrew Wendell
Examiner
Art Unit 2618

2/16/2007

Quochien B. Vuong 2/20/07

QUOCHIEN B. VUONG
PRIMARY EXAMINER